UNITED STATES PATENT AND TRADEMARK OFFICE

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MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER
TAYONG, HELENE E

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/725,974	SAVEKAR ET AL.
	Examiner	Art Unit	
	HELENE TAYONG	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>19 October 2010</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-18 and 22-24</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-18 and 22-24</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on 12/10/09.

Claims 1-18 and 22-24 are pending in this application and have been considered below.

Response to Arguments

2.   Applicant's arguments with respect to rejection of claims 1-6, 11-18 and 22-24

are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al (US

20010005398 A1) in view of in view of Setoguchi et al (US 2005/0169368) have been

fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made over Kono et

al (US 20010005398 A1) in view of Abelard et al (US 20020001458) and further in view

of Setoguchi et al (US 2005/0169368) because of reasons below.

        Regarding claims 1 and 13;

        (i)   Applicant's argument: Examiner has indicated that Kono is not explicit

about "*determining when to overwrite an existing image in the image buffers and

providing a signal to the decoder indicating when to overwrite the existing image in the

frame buffer wherein the decoder overwrites the existing image after receiving the

signal; and wherein the decoded images are provided for display in the forward order at

normal speed; wherein at least some of the pictures are stored for at least display

period after the at least some of the pictures are display*".

        Examiner's Response: The examiner did not cite the reference **Abelard et al**

(US 20020001458) for disclosing this limitation "*determining when to overwrite an existing image in the image buffers and providing a signal to the decoder indicating when to overwrite the existing image in the frame buffer wherein the decoder overwrites the existing image after receiving the signal; and wherein the decoded images are provided for display in the forward order at normal speed; wherein at least some of the pictures are stored for at least display period after the at least some of the pictures are display*" as in office action of 3/03/10 in **the Non-Final office action of 6/17/10**.

In the action of /03/10, the examiner had pointed out that Abelard et al discloses in (figs 1-7) a method for decoding compressed videos. On page 2 [0028] means for monitoring the available for write access of reconstruction buffers and for controlling said video decoder to decode a selected picture upon available of reconstruction buffer, wherein the availability of a reconstruction buffer is determine by the status of the display of picture contained in said reconstruction buffer. In [0050] three buffers (A,B,C) are each corresponding to one decoded picture. In [0072] the display manger also unlocks locking reconstruction buffers, freeing them for the decoding of further pictures, once they are not needed for display any more. In [0077] when a picture to be displayed is decoded, its reconstruction buffer is locked to avoid any overwriting by subsequent pictures before it has been actually displayed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Abelard et al in a manner as claimed in this invention for the benefit of establishing an order for decoding pictures according to a display mode and reconstruction buffers for storing decoded pictures.

The examiner brought in a new reference Setoguchi et al (US 2005/0169368) to teach the new limitations "*determining when the existing image has finished display for the last time and is no longer needed for decoding other images*" and *wherein the decoded images are provided for display in the forward order at normal speed.*

(ii).   **Applicant's argument:** the combination of Kono in view of Setoguchi et al does not teach "*determining when the existing image has finished display for the last time and is no longer needed for decoding other images*".

Examiner's Response: The examiner disagrees and points to fig. 5 of Setoguchi et al wherein display order for reproducing pictures is disclosed. P picture is displayed following a sequence of B pictures. As disclosed, p6 is an existing image that has finished displaying (after B1-B5) for the last time (only one p6) and is no longer needed for decoding other images, next images will be p12 and p18, p6 is never used again and the existing image is overwritten (see fig. 5, display order of pictures and page 2, [0018]).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-6, 11-18 and 22-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kono et al (US 20010005398 A1) in view of Abelard et al (US

20020001458) and further in view of Setoguchi et al (US 2005/0169368).

     (1) with regards to claims 1 and 13;

     Kono et al in fig. 6, a system for displaying images on a display, said system

comprising:

     a decoder(52) for decoding encoded images and parameters associated with the

images (page 5, [0066], lines 3-5]);

     image buffers (58)for storing the decoded images (page 5, [0066], lines 7-10);

     parameter buffers(53) for storing the decoded parameters associated with the

decoded images (page 5, [0067]], lines 2-6); and

     a display manager (55   and decoding control section (64).

     Kono discloses a frame memory in (fig. 6, 53) with three banks, bank 1, bank 2

and bank 3. Data is transferred (read/written/ fig. 7, step S3-S7) from the display control

section (55) and MB buffer (58) into the frame buffer.

     Kono is not explicit about

     (a) determining when to overwrite an existing image in the image buffers,

wherein determining when to overwrite the existing image further comprises

     (b) determining when the existing image has finished display for the last time

and is no longer needed for decoding other images, and

     (c) providing a signal to the decoder indicating when to overwrite the existing

image in the image buffer; and

(d) wherein the decoder overwrites the existing image after receiving the signal; and

(e) wherein the decoded images are provided for display in the forward order at normal speed.

(f) wherein at least some of the pictures are stored for at least one display period after the at least some of the pictures are displayed as applied in claim 13;

(i) with regards to item (a, c and d) above;

However, Abelard et al discloses in (figs 1-7) a method for decoding compressed videos. On page 2 [0028] means for monitoring the available for write access of reconstruction buffers and for controlling said video decoder to decode a selected picture upon available of reconstruction buffer, wherein the availability of a reconstruction buffer is determine by the status of the display of picture contained in said reconstruction buffer. In [0050] three buffers (A,B,C) are each corresponding to one decoded picture. In [0072] the display manger also unlocks locking reconstruction buffers, freeing them for the decoding of further pictures, once they are not needed for display any more. In [0077] when a picture to be displayed is decoded, its reconstruction buffer is locked to avoid any overwriting by subsequent pictures before it has been actually displayed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Abelard et al in a manner as claimed

in this invention for the benefit of establishing an order for decoding pictures according

to a display mode and reconstruction buffers for storing decoded pictures.

   (ii) with regards to items (b, e and f) above;

   However, Setoguchi et al in the same endeavor (decoding and displaying

pictures) discloses in fig. 5 a decoding means (105), reproduced picture area managing

means (109), reproduced picture memory (107), display picture deciding means (106),

discloses display order for reproducing pictures. P picture is displayed following a

sequence of B pictures. As disclosed, p6 is an existing image that has finished

displaying (after B1-B5) for the last time and is no longer needed for decoding other

images, next images will be p12 and p18, p6 is never used again and the existing image

is overwritten (see fig. 5, display order of pictures and page 2, [0018]).

   Setoguchi et al discloses in (fig. 5 and page 2, [0018]) the decoded images are

provided for display (display order for reproducing pictures) in the forward order at

normal speed (10,B1-B5, P6, B7-B11, P12, B13-B18 - - -) that is, p picture after every 5

B picture.

   Setoguchi et al discloses in (fig. 5) wherein at least some of the pictures are

stored (M0,M1 and M2, 107) for at least one display period (108) after the at least

some of the pictures are displayed (106).

   It would have been obvious to one of ordinary skill in the art at the time of the

invention to have utilized the method as taught by Setoguchi et al in the method of Kono

as modified by Abelard et al in a manner as claimed in this invention for the benefit of

avoiding blue-black screen during change of coded data due to change of program in

order to prevent viewer from feeling uncomfortable (page 2, [0019]).

    (2) with regards to claim 2;

    Kono further discloses wherein the set of parameters (pg. 5, [0067], lines 2-6)

includes a parameter indicating when the system is utilizing a technique requiring

selective images to be displayed more than once (pg. 6, [0086], lines 7-11).

    (3) with regards to claim 3 ;

    Kono further discloses wherein the system for displaying images on a display

(fig.6) further comprises:

    a first processor (54);

    a second processor (55);

    a first memory (58);

    a second memory(53); and

wherein the first memory stores an instruction set for the decoder (pg.6, [0079]).

    (4) with regards to claim 4;

    Kono further discloses wherein the first processor (54) executes the instruction

for the decoder (pg. 6, [0081] lines 3-4).

    (5) with regards to claim 5;

    Kono further discloses wherein the second memory stores (53) an instruction set

for the display manager (pg.6, [0085], lines 6-8), the instruction set for the display

manager (fig.6, 68) executed by the second processor (pg.6, [0085], lines 8-11).

     (6) with regards to claim 6;

     Kono further discloses wherein the second processor (55) determines when to overwrite the existing image (pg. 6, [0084]-[0086]).

     (7) with regards to claim 11;

     Kono further discloses the second memory stores the image buffers (fig. 6, 53d), (pg. 5, [0067]).

     (8) with regards to claim 12;

     Kono further discloses wherein the second memory stores the parameter buffers (fig. 6, 53e), (pg. 6 [0067].

     (9) with regards to claim 14;

     Kono further discloses wherein execution of the instructions by the first processor further causes: displaying the images (fig. 7 and fig.8).

     (10) with regards to claim 15;

     Kono further discloses a second processor connected to the integrated circuit (fig, 6, 55); and

     a second memory connected to the processor (fig. 6, 53), the second memory

storing instructions, wherein execution of the instructions by the second processor

causes:

Kono discloses a display manager (55) and decode control section (64), but does

not explicitly teach determining when to overwrite the existing frame; and transmitting

the signal to the first processor indicating when to overwrite the existing frame.

However, Abelard et al discloses in (figs 1-7) a method for decoding compressed

videos. On page 2 [0028] means for monitoring the available for write access of

reconstruction buffers and for controlling said video decoder to decode a selected

picture upon available of reconstruction buffer, wherein the availability of a

reconstruction buffer is determine by the status of the display of picture contained in

said reconstruction buffer. In [0050] three buffers (A,B,C) are each corresponding to one

decoded picture. In [0072] the display manger also unlocks locking reconstruction

buffers, freeing them for the decoding of further pictures, once they are not needed for

display any more. In [0077] when a picture to be displayed is decoded, its

reconstruction buffer is locked to avoid any overwriting by subsequent pictures before it

has been actually displayed.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to have utilized the method as taught by Abelard et al in a manner as claimed

in this invention for the benefit of establishing an order for decoding pictures according

to a display mode and reconstruction buffers for storing decoded pictures.

(11) with regards to claim 16;

Kono further discloses wherein execution of the instructions in the first memory

by the first processor further causes: decoding parameters associated with the images

(pg.6, [0080]).

(12) with regards to claim 17;

Kono further discloses examining some of the decoded parameters associated with the

images by the second processor (pg. 6, [0085], lines 10-11).

(13) with regards to claim 18;

Kono further discloses a parameter buffer (53) connected to the integrated circuit

and a frame buffer connected to the integrated circuit (fig.6), wherein the parameter

buffer stores the decoded parameters(pg. 5, [0067], lines 2-6), and the frame buffer

stores the decoded images (pg. 5, [0067], lines 2-6).

(14) with regards to claim 22;

Kono as modified by Abelard et al discloses overwrite an existing image in the

image buffer, but does not explicitly teach based at least in part on at least one of the

decoded parameters.

However, Setoguchi et al discloses in fig. 1 a reproduced picture area managing

means (109) , decoding means (105) and reproduced picture memory (107) that is

based on (several inputs, decoded data, address signal, reference picture data).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to have utilized the method as taught by Setoguchi et al in the method of Kono

as modified by Abelard et al in a manner as claimed in this invention for the benefit of

avoiding blue-black screen during change of coded data due to change of program in

order to prevent viewer from feeling uncomfortable (page 2, [0019]).

   (15) with regards to claim 23;

   Kono as modified by Abelard et al discloses overwrite an existing image in the

image buffer, but does not explicitly teach an existing image based on the parameter

indicating when the system is utilizing the technique requiring selective images to be

displayed more than once

   However, Setoguchi et al discloses in fig. 1 a reproduced picture area managing

means (109) , decoding means (105) ,reproduced picture memory (107) and display

picture deciding means (106) , time information notifying signal, with out area-

reproduced picture area select signal.

   It would have been obvious to one of ordinary skill in the art at the time of the

invention to have utilized the method as taught by Setoguchi et al in the method of Kono

as modified by Abelard et al in a manner as claimed in this invention for the benefit of

avoiding blue-black screen during change of coded data due to change of program in

order to prevent viewer from feeling uncomfortable (page 2, [0019]).

   (16) with regards to claim 24;

   Kono as modified by Abelard et al discloses overwrite an existing image in the

image buffer, but does not explicitly teach based an existing image with another image, wherein the another image and the existing image are from a same video sequence.

However, Setoguchi et al discloses in fig. 1 a reproduced picture area managing means (109) , with inputs form data storage information, reference picture request signal, time information signal and program change detection means (104).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Setoguchi et al in the method of Kono as modified by Abelard et al in a manner as claimed in this invention for the benefit of avoiding blue-black screen during change of coded data due to change of program in order to prevent viewer from feeling uncomfortable (page 2, [0019]).

5.   Claim 7-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al (US 20010005398 A1) and Abelard et al (US 20020001458) in view of Setoguchi et al (US 2005/0169368) as applied in claim 1 above, and further in view of Vainsencher (US 5977997).

(1) with regards to claim 7;

Kono et al. discloses in (fig. 1) an integrated circuit comprises the first processor(115) and first memory (125a).

Kono et al as modified by Abelard et al and Setoguchi et al fails to teach wherein the second processor is off-chip from the integrated circuit.

However, Vainsencher in the same field of endeavor (MPEG processing) teaches in (fig. 2) a computer system (200) wherein the second processor (202) is off-chip

(single chip).

Therefore, it would have been obvious to one of ordinary skills in the art at the

time of the invention to have incorporated the this feature of Vainsencher into the

system of Kono et al modified by Abelard et al and Setoguchi et al, in the manner as

claimed in this application, for the benefit of increased opportunities for memory sharing

(col.9, lines 13-14).

   (2) with regards to claim 8 ;

   Kono et al. discloses in (fig. 1) an integrated circuit comprises the first

processor(115) and first memory (125a).

   Kono et al as modified by Abelard et al and Setoguchi et al fails to teach wherein

the second processor is off-chip from the integrated circuit.

   However, Vainsencher in the same field of endeavor (MPEG processing) teaches

in (fig. 2) a computer system (200) and where the second memory (fig. 2, 218) is an off-

chip memory (single chip).

   Therefore, it would have been obvious to one of ordinary skills in the art at the

time of the invention to have incorporated this feature of Vainsencher into the system of

Kono et al modified by Abelard et al and Setoguchi et al, in the manner as claimed in

this application for the benefit of increased opportunities for memory sharing (col.9, lines

13-14).

   (3) with regards to claim 10;

Kono et al as modified by Abelard et al and Setoguchi et al fails to teach where the second memory is DRAM.

However, Vainsencher in the same field of endeavor (MPEG processing) teaches in (fig. 2) a computer system (200) and where the second memory is DRAM (implicitly disclosed in the display controller) (col.9, line13-24)).

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to have incorporated this feature of Vainsencher into the system of Kono et al modified by Abelard et al and Setoguchi et al, in the manner as claimed in this application for the benefit of increased opportunities for memory sharing (col.9, lines 13-14).

6.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al (US 20010005398 A1) and Abelard et al (US 20020001458) in view of Setoguchi et al (US 2005/0169368) as applied in claim 3 above , and further in view of Xiang et al (US 20070153133 A1).

(1) with regards to claim 9;

Kono et al as modified by Abelard et al and Setoguchi et al discloses all of the subject matter disclosed above but fails to teach wherein the first memory is a SRAM;

However, Xiang et al in the same field of endeavor teaches a SRAM (fig. 2, 204).

It would have been obvious to one of ordinary skill at the time of the invention to utilize the memory of Xiang et al in the method of Kono et al as modified by Abelard et al and Setoguchi et al in order to provide a video processing system having a

processing unit. The motivation to add Xiang et al 's memory in the method of Kono et al as modified by Abelard et al and Setoguchi et al would be to generate random burst addresses for processing of video signal.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schoner et al (US 5926227) discloses video decoding dynamic memory allocating system and method with error recovery.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

January 4, 2011

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611